Foresee Your Next Patient

Ovarian Cyst in an Infant Causing Failure to Thrive

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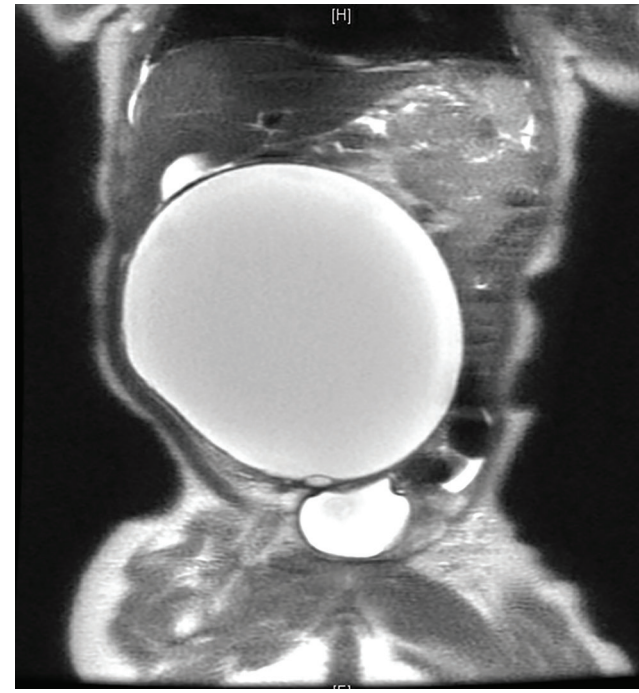
A 4-month-old girl was transferred to our hospital from her primary care physician's office with concern for worsening feeding intolerance and poor weight gain. The girl had been born preterm at 26 weeks of gestation, with a history of bronchopulmonary dysplasia and gastroesophageal reflux disease (GERD).

On the Fenton growth chart for preterm girls, the patient's weight had dropped from the 21st percentile for weight 1 month prior to admission to the 9th percentile for weight on the day of admission. The patient's mother stated the girl had had decreased oral intake and decreased urine output for several days prior to admission. The patient had also been having frequent episodes of nonbilious nonbloody emesis after feeding, although the patient reportedly had occasional vomiting after feeds at baseline, which had been attributed to GERD.

Physical examination. On admission, the patient's vital signs were within normal limits for her age, with a temperature of 36.6 °C, a heart rate of 141 beats/min, a respiratory rate of 40 breaths/min, and a blood pressure of 92/74 mm Hg. She weighed 4.084 kg, the 8th percentile for her age on the Fenton growth chart for preterm girls. She was awake and alert and in no acute distress. Her abdomen was nondistended, and no masses were palpated, though some mild tensing of the abdomen upon palpation was noted. There was no hepatosplenomegaly and bowel sounds were present. Her physical examination findings were otherwise unremarkable.



An MRI scan demonstrating a massive ovarian cyst measuring 9.4 × 8.6 × 5.7 cm and compressing the patient's abdominal organs.

Diagnostic tests. Results of a complete blood cell count and a comprehensive metabolic panel revealed were within normal limits, with the exception of an alkaline phosphatase (ALP) level of 1343 U/L, significantly elevated from the reference range of 44 to 147 U/L. Due to the patient's elevated ALP level, right upper quadrant ultrasonography was performed, followed by a confirmatory abdominal and pelvic magnetic resonance imaging (MRI).

MRI scans demonstrated a massive ovarian cyst measuring 9.4 × 8.6 × 5.7 cm and compressing the patient's abdominal organs (Figure).

DISCUSSION

Failure to thrive, a state of undernutrition traditionally defined as a weight deceleration across more than 2 major percentile curves since birth in an infant,[1] is one of the most common diagnoses made in the pediatric setting. There are innumerable

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etiologies for failure to thrive, but most commonly, nonorganic causes are to blame. Inadequate caloric intake from neglect, difficulty breastfeeding, lack of food availability, or improper formula preparation can all lead to failure to thrive.[2] In many cases, failure to thrive results from a combination of these nonorganic causes and organic causes such as cow's milk enterocolitis, celiac disease, pancreatic insufficiency, or other gastrointestinal tract conditions.[2]

However, countless other pathologies, both common and rare, can impact caloric intake, absorption, and expenditure, leading to failure to thrive in a pediatric patient. Because of this broad differential diagnosis, it is vital to obtain a detailed history, conduct a thorough physical examination, and obtain laboratory workup necessary to rule out the various causes of failure to thrive.[3]

An ovarian cyst large enough to compress a patient's intra-abdominal organs and interfere with digestion is a rare and extraordinary finding and is likely not high on the list of differential diagnoses for an infant with failure to thrive. However, ovarian cysts themselves are not an unusual finding in infants, particularly in preterm patients. Cystic follicles of the ovary can reflect an exaggerated follicle-stimulating hormone surge, especially in preterm infant girls. One study found that more than 20% of preterm infant girls had follicles measuring 6 mm or greater at the age of 5 months; more than 40% had such follicles at the age of 6 months.[4] Generally, there is consensus that complicated cysts and cysts measuring greater than 4 cm require interventions, such as laparoscopic drainage and removal, to prevent complications.[5]

In our patient's case, however, an elevated ALP level was the sole clue leading to an imaging workup that eventually revealed the cystic mass causing this patient's vomiting and feeding intolerance. An abdominal examination conducted after the cyst had been found revealed a firm abdomen secondary to the mass, but the cyst was so large and took up so much space in the patient's abdomen that, upon admission, it was initially attributed to the patient tensing her abdominal muscles during the physical examination. Even a pathologic process as extreme as mass effect on the entire abdomen presented subtly enough that the key initial diagnostic clue was a single laboratory test abnormality, speaking volumes about the importance of a thorough and attentive initial history, physical examination, and diagnostic workup.

Outcome of the case. After the presence of a cystic mass was confirmed by abdominal MRI, the patient was brought to the operating room for cyst excision. Fluid was aspirated from the mass, and the mass was then excised laparoscopically. Histologic examination findings confirmed the cystic mass as a right ovarian luteinized follicular cyst.

The patient tolerated this operation well; she began gaining weight on a diet of nonfortified expressed breast milk. By postoperative day 6, the patient was tolerating oral feeds with no vomiting; she was discharged on postoperative day 7 with plans for close follow-up. The patient continued to gain weight following discharge; at a follow-up visit 1 month after discharge, the patient weighed 5.08 kg, a full kilogram heavier than her admission weight. ■

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